

# proAmp-8

## 8-Channel Biopotential Amplifier



### STANDARD FEATURES

- Eight high-performance differential amplifier channels
- Intuitive programming interface for setting all functions
- Differential and single-ended inputs for each channel
- Sharp cutoff bandpass filters, gain range 1X—20,000X
- Built-in audio amps connect to any channel or external

### APPLICATIONS

- ECG, EMG, EEG and other biopotential recording
- AC or DC-coupled recording with auto-zero function
- *In vivo* or *in vitro* extracellular recording
- Pressure, strain, and other transducer measurements
- Audio monitoring of bioelectric signals

The **proAmp-8** is a versatile eight-channel amplifier suitable for biopotential recording or transducer signal conditioning. Each primary channel features a wide gain range, sharp cutoff low-pass filters, and independent high-pass (coupling) settings for the (+) and (-) inputs. A built-in notch filter can be set for 50 or 60Hz. Pushbutton auto-zeroing removes small output offset voltages, and can be applied to one channel or all eight simultaneously.

In addition to eight primary amplifier channels, there are two audio channels. These audio channels are independent, and can be set to monitor any of the eight primary channels as well as an external input. The audio channels can function as straight amplifiers (with adjustable baseline thresholds), or as VCO (Voltage Controlled Oscillator) signal processors which produce varying tones proportional to the input signal.

The proAmp-8 is operated as a completely stand-alone instrument, located on benchtop or rack-mountable, with all amplifier settings made using the front panel controls. Eight shielded input cables terminated with three 1.5mm DIN

Touch-Proof jacks are included. A variety of electrodes and lead-wires is also available, including high-impedance head-stages. A UL and CE listed external low-voltage power supply is included.



Main user control interface for **proAmp-8**. Pushbuttons select functions, and the single **ADJUST** knob is used to set values. All channels individually set and stored for future use. Note differential input and single-ended input jacks for each channel. Auto **ZERO OFFSET** pushbutton for each channel. Many functions can be applied simultaneously to all channels. Any two channels can be sent to the audio channels, which have VCO functions as well as simple audio amplification of signals.

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The proAmp-8 rear panel, showing OUTPUT jacks, EXTERNAL AUDIO INPUT, MULTI-OUTPUT port, and low-voltage POWER inlet.

### SPECIFICATIONS

Input type .....	differential
Input impedance .....	1 megohm
Input connector (differential) .....	7-pin Amphenol
Input connector (single-ended) .....	BNC
Head-stage power available on input connector .....	$\pm 12V @ 100mA$
Input coupling (high-pass filter) .....	DC, 0.1, 0.3, 1, 3, 10, 30, 100Hz, -3dB/octave
Input-referred noise .....	G=1, 2uV P-P; G=1000, 0.4uV P-P
CMMR .....	G=1, 95dB, G=10, 115dB, G=100, 135dB, G=1000, 140dB
Low-pass filter .....	7, 10, 30, 50, 100, 300, 500Hz, 1K, 3K, 5K, 10K, 20KHz, -24dB/octave
Notch filter .....	50 or 60Hz, user selectable
Gain settings .....	X1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K, 20K
User-adjustable zero offset .....	$\pm 200mV$
Amplifier output jacks .....	BNC
Audio input source .....	internal chan 1-8, external
Audio channel function (2 chan) .....	straight audio amplifier or VCO function
Audio output jacks (2 chan) .....	3.5mm stereo

### ORDERING INFORMATION

Part No.:	Model:	Description:
20-01000	proAmp-8	Eight-channel programmable amplifier with eight input cables
10-02030	HS-1	High-impedance differential head-stage
09-03112	ICA-400	Replacement input cable, 10' (3m) with 1.5mm DIN TouchProof jacks
10-02064	NEE-3	Needle electrode leads, 18" (46cm) long, set of 3
10-02065	Alligator leads	Mini copper alligator clip leads, 24" (61cm) long, set of 3
10-02063	E422	Snap-type electrode leads, 39" (1m) long, set of 3

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